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The Advanced Placement Program: Connecting Students to College Success

Introduction

The College Board is a national not-for-profit association of more than 5,000 member schools, colleges and universities, with a challenging mission: To connect students to college success. One of the College Board's most ambitious and important teaching and learning programs is our Advanced Placement Program (AP). As a set of 38 college-level courses taught in high school, AP has become the most influential general education program in the country, and it represents the highest standard of academic excellence in our nation's schools. The Advanced Placement Program is a collaborative effort between motivated students, dedicated teachers, expert college professors, and committed high schools, colleges, and universities. Ninety percent of the colleges and universities in the U.S., as well as colleges and universities in 30 other countries, have an AP policy granting incoming students credit, placement or both on the basis of their AP Exam grades. Many of these institutions grant up to a full year of college credit (sophomore standing) to students who earn a sufficient number of qualifying AP grades. Since its inception in 1955, the AP Program has allowed millions of students to take college-level courses and exams, and to earn college credit or placement while still in high school.

AP is a 50-year-old, time-tested program with an existing infrastructure of tens of thousands of teachers and a network of hundreds of training sites across the country. The principles and values of the AP Program can be stated quite simply:

- *AP supports academic excellence*. AP represents a commitment to high standards, hard work, and enriched academic experiences for students, teachers and schools.

- *AP is about equity*. The AP Program should be open to all students, and we believe that every student should have access to AP courses and should be given the support he or she needs to succeed in these challenging courses.

- *AP can drive school-wide academic reform*. Schools that use AP as an anchor for setting high standards and raising expectations for all students see significant returns not just in terms of AP participation but in terms of increasing the overall quality and intensity of their academic programs.

Across the nation, every state and most school districts are exploring ways to raise standards and ensure that all students take challenging courses in science and mathematics that prepare them for success in college and work. AP is recognized as a powerful tool for increasing academic rigor, improving teacher quality, and creating a culture of excellence in high schools. Where AP Programs flourish, schools and districts use the AP Program to support a cohesive school culture that promotes both rigor and college-going aspirations. Students who take AP courses assume the intellectual responsibility of thinking for themselves, and they learn how to engage the world critically and analytically—both inside and outside of the classroom. This is an invaluable experience for students as they prepare for college or work upon graduation

from high school. Moreover, schools in which AP is offered widely—and accessible to all students—experience the diffusion of higher standards throughout the entire school curriculum.

Superintendents and principals recognize the value of AP as leverage to increase opportunity and achievement for all students. One principal from Lincolnshire, Illinois, cited the role of AP as a driver for improving all students' readiness for college and work:

> AP is helping more of our students develop the skills and confidence they need to succeed. Most of our graduates who have participated in the program report being exceptionally well prepared for the challenges of college. Feedback like this reinforces our commitment to expanding college-level opportunities for all of our students.[1]

The federal AP Incentive Program (APIP), which currently provides $32 million in federal funding for AP expansion, mostly to increase AP access and success among underrepresented students, is working. Since its inception in 2000, more than 100 grants to states and districts have resulted in programs that have touched the lives of students throughout the nation and promoted a college-going culture, encouraging more of our nation's students to set high goals for themselves. The Advanced Placement Program's official Equity Policy Statement calls for "schools to make every effort to ensure that their AP classes reflect the diversity of their student population." From 2000 to 2005, the total number of students in the nation with AP Exam grades of 3, 4 or 5 ("passing" grades that earn college credit) has grown from 494,000 to 742,000. Among African American students, the number of AP Exams with grades of 3, 4 or 5 has grown from 18,000 to 30,000; among Latino students, the number of AP Exams with grades of 3, 4 or 5 has grown from 63,000 to 110,500.

This growth in AP is important to students, parents, schools, and districts—and to the federal government—for a number of reasons:

> First, the most important predictor of college success for a student is not his or her high school GPA, his or her SAT score, or his or her extracurricular activities. Rather, it is the quality and rigor of his or her high school courses. Research shows that students who take more rigorous courses, such as Algebra II, trigonometry and AP Calculus, are the most likely to enroll in and <u>complete</u> college. Additionally, AP is a powerful predictor of college success. By providing students with the opportunity to enroll in challenging courses during high school, it is more likely that these students will have the confidence and motivation to set and achieve high standards for themselves and will be encouraged to enroll and succeed in college.
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> Second, students who take AP can earn college credit, which can save parents money spent on tuition and fees. In Texas, for example, students who take a semester's worth of AP and earn college credit on the exams can save $3,000-

[1] Dan Galloway, Principal, Adlai E. Stevenson High School, Lincolnshire, Illinois, as cited in the *2001 AP Yearbook*, College Board.

$5,000 in tuition and fees in the state's public colleges and universities, and much more at private institutions. By enrolling in AP classes during high school, students are able to prepare themselves academically for college, and take advantage of financial savings for their future.

Third, schools, districts and even state departments of education value the impact of AP. Students who complete AP courses are not only prepared for the rigors of college, they are extremely well prepared for the assessments required by NCLB. It is the College Board's experience that the rigorous work required in AP helps students master subject matter and prepares them for any type of assessment challenge they might face, including state accountability tests and college entrance exams.

Most AP participants are 11th and 12th grade students, but the proportion of lower-grade examinees has been growing. In the latest school year, 44 percent of the AP examinees were twelfth graders and 38 percent were eleventh graders, while lower-grade and other examinees accounted for 17 percent of all examinees. This latter group, comprised mostly of tenth graders, has grown from 11 percent in 2000. With regard to numbers of exams, 12th graders are more likely to take multiple exams, accounting for 52 percent of total exams in the 2005 school year, but this dominance has been decreasing steadily as other grades have been growing at a faster pace. The strong presence of tenth graders setting, and often achieving, high standards for themselves reinforces the idea that implementation of AP enhances a rigorous school culture.

AP Mathematics and Science Courses

The president and members of Congress have recognized the significance of AP by including the expansion of AP as a key component of their recent economic competitiveness proposals. President Bush, in his American Competitiveness Initiative, has called for the training of 70,000 new AP and International Baccalaureate (IB) teachers in math, science and world languages over the next five years. The PACE Act, introduced by Senators Domeneci, Alexander, Bingaman and Mikulski, and now with more than 60 Senate co-sponsors, includes a strong emphasis on AP expansion. These initiatives reflect the belief that increasing rigorous math and science education in the United States will significantly boost our high school graduates' math and science proficiency—and also increase the number of students who enter college ready to succeed in science, technology, engineering and mathematics (STEM) career paths. And we urgently need to create those opportunities for our students. Today, only 32 percent of American undergraduates are earning degrees in science and engineering, compared to 66 percent of undergraduates in Japan, 59 percent in China and 36 percent in Germany. In 2004, China graduated 600,000 engineers, India graduated 350,000, and the United States graduated 70,000.[2]

[2] Committee on Science, Engineering and Public Policy. *Rising Above the Gathering Storm: Energizing and Employing America for a Brighter Economic Future*. National Academies Press, 2006. This report notes that America appears to be on a "losing path" today with regard to our future competitiveness and standard of living.

The AP Program is an important tool in this nation's efforts to increase our economic competitiveness. AP math and science students are much more likely than other students to major in STEM disciplines than students whose first exposure to college-level math and science courses is in college. For example:

- Sixteen percent of students who take AP Chemistry go on to major in chemistry in college. By way of contrast, only 3-4 percent of students who take general chemistry instead of AP Chemistry major in that field.
- More than 25 percent of students who take AP Calculus go on to major in mathematics in college, and 40 percent of students who take AP Physics major in physics.

Further, research indicates that AP math and science courses prepare American students to achieve a level of proficiency that exceeds that of students from all other nations. For example, in the most recent TIMSS assessments, U.S. Calculus students ranked #15 (out of 16 countries) in the international advanced mathematics assessment. But AP Calculus students who scored a 3 or better on the AP Calculus Exam ranked first in the world. Even AP Calculus students who scored a 1 or 2 on the AP Calculus Exam – below the "passing" score – were ranked second in the world. AP Physics students, as compared to other U.S. physics students and physics students internationally, were also at the top of the ranking.

Most significantly, there are many more U.S. students who can succeed in AP math and science courses—if they simply are given the chance. This year in the U.S., we anticipate that more than 100,000 students will earn a grade of 3 or above on the AP Calculus Exam--the grade typically required for college credit. But in a national analysis of the math proficiency of students enrolled in U.S. high schools during the 2005-2006 academic year, we can identify, by name and school, an additional 500,000 students who have the same academic backgrounds and likelihood of success in AP Calculus as the 100,000 students who currently are fortunate enough to have an AP Calculus course available. If we look at AP Biology, we see an even larger gap; we expect that about 74,000 students will earn exam grades of 3 or higher on the AP Biology Exam this year, whereas we know that at least 640,000 additional U.S. students have the academic skills that would enable them to succeed in AP Biology if they only had a course available to them and the encouragement to take on this challenge. There are literally hundreds of thousands of high school students in the U.S. who are prepared and ready to succeed in rigorous high school courses such as AP Calculus, AP Biology, AP Physics and AP Chemistry. In many cases, the only thing preventing them from learning at this higher level is the lack of an AP teacher in their school or the lack of adequate encouragement and support to take the AP course.

It is important to note that participation in AP increases the likelihood that students will graduate from college within four years. Strong correlations exist between taking AP math and science (and all other AP subjects) and college completion. Sixty-one percent of students who have taken two AP courses in high school graduate from college in 4 years or less. Forty-five percent of students who have taken one AP course graduate

from college in 4 years or less. Only 29 percent of students who have not taken an AP course will graduate in four years or less.

One concern that I have heard expressed about increasing the investment in AP is the notion that this takes funding away from other education programs. It is our belief that we need much more funding for all education programs if this nation is to maintain our position of leadership in terms of economic competitiveness in the 21st century. The education piece of the pie needs to get larger, not smaller. Fortunately, the President's American Competitiveness Initiative and the PACE Act are designed to do much more than launch new AP courses in U.S. schools. In fact, they are intended to provide states with resources for increasing the rigor and quality of their math and science programs in grades 6-11, using AP as a 12th grade anchor from which their schools can implement a curriculum that sequentially prepares students for the rigor of AP and college. Moreover, both the President's plan and the PACE Act are explicit in calling for increased access to advanced math and science courses among students from all socioeconomic backgrounds. We share that equity commitment, and we believe that traditionally underrepresented students have the greatest need for access to rigorous course work in math, science, foreign language and culture and many other areas. If we are to maintain our position in the world, access to rigorous college-preparatory experiences in the STEM fields must be open to all students.

The College Board believes AP has tremendous potential to drive reform in a powerful way in all of our nation's schools. No single program can have as strong an impact on overall student and teacher quality as AP. AP is not for the elite, it is for the prepared. Additional support for expanded AP math and science courses and exams will prepare many more students for the opportunity to succeed in STEM fields in college and work.